AMENDED CLAIMS in Serial No. 08/251,125

1. (Amended) An arrangement comprising:

a first sub-circuit having a pair of power line input terminals across which is applied a power line voltage from an ordinary electric utility power line; the first sub-circuit supplying a DC supply voltage across a pair of DC output terminals; the magnitude of the DC supply voltage being substantially the same irrespective of the magnitude of any current being drawn from the DC output terminals;

a second sub-circuit having a pair of DC input terminals and a pair of high-frequency voltage output terminals; the DC input terminals being connected with the DC output terminals; the DC supply voltage being present across the DC input terminals; a high-frequency voltage being provided across the high-frequency voltage output terminals; the peak-to-peak magnitude of the high-frequency voltage being proportional to the magnitude of the DC supply voltage; the fundamental frequency of the high-frequency voltage being substantially higher than that of the power line voltage;

a third sub-circuit having a tank-inductor and a tank-capacitor effectively series-connected across the high-frequency voltage output terminals; the third sub-circuit having a natural series-resonance frequency at or below the fundamental frequency of the high-frequency voltage; a high-magnitude voltage being present across the tank-capacitor as well as between a pair of lamp output terminals; the combination of the first, second and third sub-circuits being characterized in that, in the absence of substantial load power being drawn from the lamp output terminals, the RMS magnitude of the high-magnitude voltage will attain an unacceptably high level;

a gas discharge lamp having a pair of lamp input terminals operable to connect with the lamp output terminals; the gas discharge lamp being characterized in that, if indeed so connected, it will draw power from the lamp output terminals to a degree sufficient to constitute said substantial load power; and

a fourth sub-circuit connected between the third sub-circuit and the second sub-circuit; the fourth sub-circuit being responsive to the RMS magnitude of the high-magnitude output voltage and operative, in case the gas discharge lamp were to fail to draw sufficient power from the lamp output terminals, to cause the RMS magnitude of the high-magnitude output voltage to be significantly lower than it would have been if the fourth sub-circuit had not been so connected.

2. (Amended) An arrangement comprising:

an inverter circuit having: (i) DC terminals connected with a DC supply voltage and operative to draw DC input power therefrom, the magnitude of the DC supply voltage being substantially unaffected by the amount of power drawn therefrom; and (ii) AC terminals across which exists an AC output voltage, the magnitude of the AC output voltage being substantially proportional to the magnitude of the DC supply voltage;

an L-C circuit having an inductor means and a capacitor means effectively series-connected across the AC terminals, thereby giving rise to resonant action such as to cause an alternating current to be drawn from the AC terminals and a ballast output voltage to develop across the capacitor means; the capacitor means being connected with a pair of ballast output terminals; under a condition of little or no loading of the L-C circuit, the L-C circuit having a natural resonance at or near the fundamental frequency of the AC output voltage and, due to resonant action, being operative to cause the amplitude of the

A1 cont

ballast output voltage to have a first magnitude; under a condition of substantive loading of the L-C circuit, the amplitude of the ballast output voltage having a second magnitude; the second magnitude being distinctly lower than the first magnitude;

gas discharge lamp means having a pair of lamp terminals operable to connect with the ballast output terminals and functional, when indeed so connected, to constitute said substantive loading of the L-C circuit; and

auxiliary sub-assembly operable to be connected between the L-C circuit and the inverter circuit; with the auxiliary sub-assembly indeed so connected, and under said condition of little or no loading of the L-C circuit, the auxiliary sub-assembly being functional to cause the amplitude of the ballast output voltage to be substantially lower than it would have been in case it were not so connected.

3. The arrangement of claim 2 further characterized in that the amount of DC input power being drawn by the DC terminals is distinctly higher under the condition of substantive loading of the L-C circuit as compared with the condition of little or no loading of the L-C circuit.

4. The arrangement of claim 2 further characterized in that the alternating current is of lagging phase compared with the phase of the AC output voltage.

5. The arrangement of claim 2 further characterized in that the phasing of the alternating current is such as to lag the phasing of the AC output voltage.

6. The arrangement of claim 2 further characterized in that, as long as the auxiliary sub-assembly is indeed connected between the L-C circuit and the inverter circuit, the amplitude of the ballast output voltage has a magnitude distinctly lower than said first magnitude.

7. (Amended) An arrangement comprising:

C2 cont

an inverter circuit having: (i) DC terminals connected with a DC supply voltage and operative to draw DC input power therefrom, the magnitude of the DC supply voltage being substantially the same irrespective of the amount of power being drawn therefrom; and (ii) AC terminals across which exists an AC output voltage, the magnitude of the AC output voltage being proportional to the magnitude of the DC supply voltage;

an L-C circuit having an inductor means and a capacitor means effectively series-connected across the AC terminals, thereby giving rise to resonant action such as to cause an alternating current to be drawn from the AC terminals and a ballast output voltage to develop across the capacitor means; the capacitor means being connected with a pair of ballast output terminals; under a condition of little or no loading of the L-C circuit, the L-C circuit having a natural resonance at or near the fundamental frequency of the AC output voltage and, due to resonant action, being operative to cause the amplitude of the ballast output voltage to have a first magnitude; under a condition of substantive loading of the L-C circuit, the amplitude of the ballast output voltage having a second magnitude; the second magnitude being distinctly lower than the first magnitude;

gas discharge lamp means having a pair of lamp terminals operable to connect with the ballast output terminals and functional, when indeed so connected, to constitute said substantive loading of the L-C circuit; and

an auxiliary sub-assembly operable to be connected with the L-C circuit as well as with the inverter circuit; the auxiliary sub-assembly, when indeed so connected, being functional under the condition of little or no loading of the L-C circuit to cause the amplitude of the ballast output voltage to assume a third magnitude; the third magnitude being distinctly lower than the first magnitude.

8. The arrangement of claim 7 further characterized in that the third magnitude is distinctly higher than the second magnitude.

9. An arrangement comprising:

an inverter circuit having: (i) DC terminals connected with a DC supply voltage and operative to draw DC input power therefrom; and (ii) AC terminals across which exists an AC output voltage, the magnitude of the AC output voltage being substantially the same irrespective of the amount of power being drawn from the AC terminals;

an L-C circuit having an inductor means and a capacitor means effectively series-connected across the AC terminals, thereby giving rise to resonant action such as to cause an alternating current to be drawn from the AC terminals and a ballast output voltage to develop across the capacitor means; the capacitor means being connected with a pair of ballast output terminals; under a condition of little or no loading of the L-C circuit, the L-C circuit having a natural resonance at or near the fundamental frequency of the AC output voltage and, due to resonant action, being operative to cause the amplitude of the ballast output voltage to have a first magnitude; under a condition of substantive loading of the L-C circuit, the amplitude of the ballast output voltage having a second magnitude; the second magnitude being distinctly lower than the first magnitude;

gas discharge lamp means having a pair of lamp terminals operable to connect with the ballast output terminals and functional, when indeed so connected, to constitute said substantive loading of the L-C circuit; and

an auxiliary sub-assembly operable to be connected with the L-C circuit as well as with the inverter circuit; the auxiliary sub-assembly, when indeed so connected, being functional under the condition of little or no loading of the L-C circuit to cause the amplitude of the ballast output voltage to assume a third magnitude; the third magnitude being distinctly lower than the first magnitude.

10. The arrangement of claim 9 further characterized in that the frequency of the AC output voltage is lower under a condition of substantive loading of the L-C circuit than it is under a condition of little or no loading of the L-C circuit.